

# STIC Search Report

## STIC Database Tranking to the control of the contro

TO: Young Y Lee

Location: KNX 06 A45

**Art Unit: 2613** 

Wednesday, October 05, 2005

Case Serial Number: 10/054219

From: Paul Obiniyi Location: EIC 2600

KNX 08 B55 Phone: 305-1836

paul.obiniyi@uspto.gov

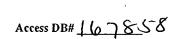
## Searem Notes

Dear Examiner Lee,

Attached please find the results of your search. Please feel free to contact me if you have additional questions or would like a re-focus search. Thank you and have a great day.

Paul







RUSH SPE SIGNATURE

## SEARCH REQUEST FORM

Office Loc	cation <u>KNX 6A4S</u>	Format preferred (circle) F			
If more th	ian one search is sub	mitted, please prioritize s	earches in order of need.		
Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Let us know what you already have and so do not need. Include the keywords, synonyms and meaning of acronyms. Define all terms that may have a specific meaning. Please attach a copy of the background, abstract, claims and other pertinent information.  Please state how the terms or keyword strings should relate to one another.					
Title of the	Invention				
Inventor(s)	Heath		•		
	7 ( 0 - 1 )				
Earliest Pr	iority date to be used _	8/10/01			
Lemp	pel-Ziv-	Jest - Heath	(LZJH)		
Huffn	nan				
コムヤての					
MUPTA					
MUPTA					
Mutth			•		
MATT					
Mutth					
// ******		******	*******		
**************************************	E ONLY				
******* STAFF US Searcher Po	E ONLY	TYPE of Search	Databases Searched		
**************************************	EONLY aul Obiniy I				
********  STAFF US  Searcher 1/2  Phone 2	E ONLY aul Obining 1 7734 AX OSBSS	TYPE of Search Text	Databases Searched Dialog		
******* STAFF US Searcher_Y Phone2 Location_K Date picked Date compl	E ONLY  aul 05:0191  7734  xx 08355  1 up 0/05/05  eted 1405/05	TYPE of Search  Text  Litigation	Databases Searched Dialog STN QuestelOrbit LEXIS/NEXIS		
********  STAFF US Searcher Ponone 2 Location K Date picked	E ONLY  aul 05:0191  7734  xx 08355  1 up 0/05/05  eted 1405/05	TYPE of Search  Text  Litigation	Databases Searched Dialog STN QuestelOrbit		

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? show files; ds; save temp; logoff hold
File
       9:Business & Industry(R) Jul/1994-2005/Oct 03
         (c) 2005 The Gale Group
      15:ABI/Inform(R) 1971-2005/Oct 05
         (c) 2005 ProQuest Info&Learning
      16:Gale Group PROMT(R) 1990-2005/Oct 04
File
         (c) 2005 The Gale Group
      20:Dialog Global Reporter 1997-2005/Oct 05
File
         (c) 2005 Dialog
      47:Gale Group Magazine DB(TM) 1959-2005/Oct 05
File
         (c) 2005 The Gale group
      75:TGG Management Contents (R) 86-2005/Sep W4
File
         (c) 2005 The Gale Group
File
      80:TGG Aerospace/Def.Mkts(R) 1982-2005/Oct 04
         (c) 2005 The Gale Group
      88: Gale Group Business A.R.T.S. 1976-2005/Oct 05
File
         (c) 2005 The Gale Group
File
      98:General Sci Abs/Full-Text 1984-2004/Dec
         (c) 2005 The HW Wilson Co.
File 112:UBM Industry News 1998-2004/Jan 27
         (c) 2004 United Business Media
File 141:Readers Guide 1983-2004/Dec
         (c) 2005 The HW Wilson Co
File 148:Gale Group Trade & Industry DB 1976-2005/Oct 05
         (c) 2005 The Gale Group
File 160: Gale Group PROMT(R) 1972-1989
         (c) 1999 The Gale Group
File 275: Gale Group Computer DB(TM) 1983-2005/Oct 04
         (c) 2005 The Gale Group
File 264: DIALOG Defense Newsletters 1989-2005/Oct 04
         (c) 2005 Dialog
File 484:Periodical Abs Plustext 1986-2005/Oct W1
         (c) 2005 ProQuest
File 553: Wilson Bus. Abs. FullText 1982-2004/Dec
         (c) 2005 The HW Wilson Co
File 570: Gale Group MARS(R) 1984-2005/Oct 04
         (c) 2005 The Gale Group
File 608:KR/T Bus.News. 1992-2005/Oct 05
         (c)2005 Knight Ridder/Tribune Bus News
File 620:EIU:Viewswire 2005/Oct 04
         (c) 2005 Economist Intelligence Unit
File 613:PR Newswire 1999-2005/Oct 05
         (c) 2005 PR Newswire Association Inc
File 621: Gale Group New Prod. Annou. (R) 1985-2005/Oct 05
         (c) 2005 The Gale Group
File 623: Business Week 1985-2005/Sep 29
         (c) 2005 The McGraw-Hill Companies Inc
File 624:McGraw-Hill Publications 1985-2005/Oct 04
         (c) 2005 McGraw-Hill Co. Inc
File 634: San Jose Mercury Jun 1985-2005/Oct 04
         (c) 2005 San Jose Mercury News
File 635: Business Dateline(R) 1985-2005/Oct 05
         (c) 2005 ProQuest Info&Learning
File 636: Gale Group Newsletter DB(TM) 1987-2005/Oct 04
         (c) 2005 The Gale Group
File 647:CMP Computer Fulltext 1988-2005/Sep W3
         (c) 2005 CMP Media, LLC
File 696:DIALOG Telecom. Newsletters 1995-2005/Oct 03
         (c) 2005 Dialog
File 674: Computer News Fulltext 1989-2005/Oct W1
```

(c) 2005 IDG Communications

File 810:Business Wire 1986-1999/Feb 28

(c) 1999 Business Wire

File 813:PR Newswire 1987-1999/Apr 30

(c) 1999 PR Newswire Association Inc

File 587: Jane's Defense&Aerospace 2005/Oct W1

(c) 2005 Jane's Information Group

Set Items Description

S1 3 LZ()77 AND HUFFMAN

1/3,K/1 (Item 1 from file: 15)

DIALOG(R)File 15:ABI/Inform(R)

(c) 2005 ProQuest Info&Learning. All rts. reserv.

00755403 94-04795

#### Putting data on a diet

Weiss, Jeffrey; Schremp, Doug

IEEE Spectrum v30n8 PP: 36-39 Aug 1993

ISSN: 0018-9235 JRNL CODE: SPC

...ABSTRACT: method for lossless compression is run-length encoding. A more sophisticated compression algorithm is the <code>Huffman</code> coder, which tries to assign the most economical possible variable-length bit string to each symbol in an alphabet. Arithmetic codes were developed to overcome the fractional-bit deficiencies of <code>Huffman</code> codes. As good as they are, the <code>Huffman</code> and arithmetic models are less than efficient at modeling text. Far more effective are 2 simple string-matching techniques, known as <code>LZ - 77</code> and <code>LZ-78</code>. An area to which compression has a very large contribution to make...

#### 1/3,K/2 (Item 1 from file: 88)

DIALOG(R) File 88: Gale Group Business A.R.T.S.

(c) 2005 The Gale Group. All rts. reserv.

06828139 SUPPLIER NUMBER: 118957190

# On the hardness of finding optimal multiple preset dictionaries. (Author Abstract)

Mitzenmacher, Michael

IEEE Transactions on Information Theory, 50, 7, 1536(4)

July, 2004

DOCUMENT TYPE: Author Abstract ISSN: 0018-9448 LANGUAGE: English

RECORD TYPE: Abstract

...AUTHOR ABSTRACT: simple compression problem is NP-hard: given a collection of documents, find the pair of **Huffman** dictionaries that minimizes the total compressed size of the collection, where the best dictionary from...

...each document. We also show the NP-hardness of finding optimal multiple preset dictionaries for LZ ' 77 -based compression schemes. Our reductions make use of the catalog segmentation problem, a natural partitioning problem. Our results justify heuristic attacks used in practice.

Index Terms-- Huffman coding, LZ '77, NP-completeness, preset dictionaries, two-stage compression.

#### 1/3,K/3 (Item 1 from file: 484)

DIALOG(R) File 484: Periodical Abs Plustext

(c) 2005 ProQuest. All rts. reserv.

06629187 SUPPLIER NUMBER: 764678221

#### On the hardness of finding optimal multiple preset dictionaries

Mitzenmacher, Michael

IEEE Transactions on Information Theory (EINT), v50 n7, p1536-1539

Jul 2004

ISSN: 0018-9448 JOURNAL CODE: EINT

DOCUMENT TYPE: Feature

LANGUAGE: English RECORD TYPE: Abstract

...ABSTRACT: simple compression problem is NP-hard: given a collection of documents, find the pair of **Huffman** dictionaries that minimizes the total compressed size of the collection, where the best dictionary from...

...each document. We also show the NP-hardness of finding optimal multiple preset dictionaries for LZ ' 77 -based compression schemes. Our reductions make use of the catalog segmentation problem, a natural partitioning...

? show files; ds; save temp; logoff hold

File 344: Chinese Patents Abs Aug 1985-2005/May

(c) 2005 European Patent Office

File 347: JAPIO Nov 1976-2005/Apr (Updated 050801)

(c) 2005 JPO & JAPIO

File 350: Derwent WPIX 1963-2005/UD, UM &UP=200563

(c) 2005 Thomson Derwent

File 371:French Patents 1961-2002/BOPI 200209

(c) 2002 INPI. All rts. reserv.

Set	Items	Description
S1	1621	HUFFMAN
S2	1	LZJH OR LEMPEL()ZIV()JEFF()HEATH
S3	283	AU=(HEATH, R? OR HEATH R? OR HEATH J?)
S4	1	S1 AND S2
S5	1	S1 AND S3
S6	0	S5 NOT S4

4/3,K/1 (Item 1 from file: 350) DIALOG(R) File 350: Derwent WPIX (c) 2005 Thomson Derwent. All rts. reserv. 015368221 \*\*Image available\*\* WPI Acc No: 2003-429159/200340 XRPX Acc No: N03-342606 Data encoding/decoding method involves applying Huffman coding algorithm on compressed codes generated from input data using Lempel -Ziv - Jeff - Heath data compression algorithm Patent Assignee: HEATH R J (HEAT-I) Inventor: HEATH R J Number of Countries: 001 Number of Patents: 001 Patent Family: Kind Date Applicat No Kind Patent No US 20030031246 A1 20030213 US 2001311781 P 20010810 200340 B US 200154219 20011109 Α Priority Applications (No Type Date): US 2001311781 P 20010810; US 200154219 A 20011109 Patent Details: Patent No Kind Lan Pg Main IPC Filing Notes US 20030031246 A1 16 H04B-001/66 Provisional application US 2001311781 Data encoding/decoding method involves applying Huffman coding algorithm on compressed codes generated from input data using Lempel -Ziv - Jeff - Heath data compression algorithm Abstract (Basic): The compressed codes are generated from the input data to be encoded, using a Lempel - Ziv - Jeff - Heath ( LZJH ) data compression algorithm. A minimum redundancy coding algorithm such as fixed or dynamic Huffman coding algorithm, is applied on the compressed codes to generate compressed data. By using Lempel - Ziv - Jeff - Heath data compression

algorithm and Huffman coding algorithm, data compression efficiency

is improved...
...Title Terms: HUFFMAN;

```
? show files; ds; save temp; logoff hold
       9:Business & Industry(R) Jul/1994-2005/Oct 03
File
         (c) 2005 The Gale Group
      15:ABI/Inform(R) 1971-2005/Oct 05
File
         (c) 2005 ProQuest Info&Learning
      16:Gale Group PROMT(R) 1990-2005/Oct 04
File
         (c) 2005 The Gale Group
File
      20:Dialog Global Reporter 1997-2005/Oct 05
         (c) 2005 Dialog
File
      47: Gale Group Magazine DB (TM) 1959-2005/Oct 05
         (c) 2005 The Gale group
File
      75:TGG Management Contents(R) 86-2005/Sep W4
         (c) 2005 The Gale Group
File
      80:TGG Aerospace/Def.Mkts(R) 1982-2005/Oct 04
         (c) 2005 The Gale Group
      88: Gale Group Business A.R.T.S. 1976-2005/Oct 05
File
         (c) 2005 The Gale Group
      98:General Sci Abs/Full-Text 1984-2004/Dec
File
         (c) 2005 The HW Wilson Co.
File 112:UBM Industry News 1998-2004/Jan 27
         (c) 2004 United Business Media
File 141:Readers Guide 1983-2004/Dec
         (c) 2005 The HW Wilson Co
File 148:Gale Group Trade & Industry DB 1976-2005/Oct 05
         (c) 2005 The Gale Group
File 160: Gale Group PROMT (R) 1972-1989
         (c) 1999 The Gale Group
File 275: Gale Group Computer DB(TM) 1983-2005/Oct 04
         (c) 2005 The Gale Group
File 264:DIALOG Defense Newsletters 1989-2005/Oct 04
         (c) 2005 Dialog
File 484:Periodical Abs Plustext 1986-2005/Oct W1
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File 553: Wilson Bus. Abs. FullText 1982-2004/Dec
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File 620:EIU: Viewswire 2005/Oct 04
         (c) 2005 Economist Intelligence Unit
File 613:PR Newswire 1999-2005/Oct 05
         (c) 2005 PR Newswire Association Inc
File 621: Gale Group New Prod. Annou. (R) 1985-2005/Oct 05
         (c) 2005 The Gale Group
File 623:Business Week 1985-2005/Sep 29
         (c) 2005 The McGraw-Hill Companies Inc
File 624:McGraw-Hill Publications 1985-2005/Oct 04
         (c) 2005 McGraw-Hill Co. Inc
File 634:San Jose Mercury Jun 1985-2005/Oct 04
         (c) 2005 San Jose Mercury News
File 635:Business Dateline(R) 1985-2005/Oct 05
         (c) 2005 ProQuest Info&Learning
File 636:Gale Group Newsletter DB(TM) 1987-2005/Oct 04
         (c) 2005 The Gale Group
File 647:CMP Computer Fulltext 1988-2005/Sep W3
         (c) 2005 CMP Media, LLC
File 696:DIALOG Telecom. Newsletters 1995-2005/Oct 03
         (c) 2005 Dialog
File 674: Computer News Fulltext 1989-2005/Oct W1
```

(c) 2005 IDG Communications

File 810:Business Wire 1986-1999/Feb 28

(c) 1999 Business Wire

File 813:PR Newswire 1987-1999/Apr 30

(c) 1999 PR Newswire Association Inc

File 587: Jane's Defense&Aerospace 2005/Oct W1

(c) 2005 Jane's Information Group

Set	Items	Description
S1	21187	HUFFMAN
S2	9	LZJH OR LEMPEL()ZIV()JEFF()HEATH
53	465	AU=(HEATH R? OR HEATH R? OR HEATH J? OR HEATH J?)

2/3,K/1 (Item 1 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

(c) 2005 The Gale Group. All rts. reserv.

07584234 Supplier Number: 63544738 (USE FORMAT 7 FOR FULLTEXT)

ITU gives modem plan green light. (Brief Article)

Electronics Times, p3

July 10, 2000

Language: English Record Type: Fulltext

Article Type: Brief Article

Document Type: Magazine/Journal; Trade

Word Count: 67

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

...procedures for modem and connection fault-finding. The data compression recommendation is based on Hughes' LZJH compression algorithm and gives an improvement in compression of more than 25% over the existing...

2/3,K/2 (Item 1 from file: 20)

DIALOG(R)File 20:Dialog Global Reporter

(c) 2005 Dialog. All rts. reserv.

12395175 (USE FORMAT 7 OR 9 FOR FULLTEXT)

ITU: Voiceband modem standards take another significant step forward

M2 PRESSWIRE

July 04, 20.00

JOURNAL CODE: WMPR LANGUAGE: English RECORD TYPE: FULLTEXT

WORD COUNT: 547

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... facilitating modem and connection fault-finding..

The new data compression Recommendation is based on the LZJH compression algorithm developed by US-based Hughes Network Systems and gives an improvement in compression...

2/3,K/3 (Item 2 from file: 20)

DIALOG(R) File 20: Dialog Global Reporter

(c) 2005 Dialog. All rts. reserv.

12394547 (USE FORMAT 7 OR 9 FOR FULLTEXT)

ITU: Voiceband modem standards take another significant step forward

M2 PRESSWIRE

July 07, 2000

JOURNAL CODE: WMPR LANGUAGE: English RECORD TYPE: FULLTEXT

WORD COUNT: 546

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... facilitating modem and connection fault-finding.

The new data compression Recommendation is based on the LZJH compression algorithm developed by US-based Hughes Network Systems and gives an improvement in compression...

2/3, K/4 (Item 1 from file: 47)

DIALOG(R) File 47: Gale Group Magazine DB(TM) (c) 2005 The Gale group. All rts. reserv.

05851057 SUPPLIER NUMBER: 63648834 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Pings&Packets - Searching the industry for technical connections and
returning analysis in byte-sized packges. (News Briefs)

MacKenna, John eWeek, 87 July 24, 2000

LANGUAGE: English RECORD TYPE: Fulltext WORD COUNT: 755 LINE COUNT: 00063

... rates of between 150K bps and 200K bps) would result from use of the new LZJH, or Lempel - Ziv - Jeff - Heath, compression algorithm, which generates a 25 percent greater compression ratio than the current standard. Faster...

2/3,K/5 (Item 1 from file: 112)
DIALOG(R)File 112:UBM Industry News

(c) 2004 United Business Media. All rts. reserv.

01265215 (USE FORMAT 7 OR 9 FOR FULLTEXT)

ITU gives modem plan green light

Electronics Times , p 3

July 10, 2000

LANGUAGE: English RECORD TYPE: Fulltext DOC. TYPE: Journal

WORD COUNT: 00000066

(USE FORMAT 7 OR 9 FOR FULLTEXT)

TEXT: ...procedures for modem and connection fault-finding. The data compression recommendation is based on Hughes' LZJH compression algorithm and gives an improvement in compression of more than 25% over the existing...

2/3,K/6 (Item 1 from file: 148)

DIALOG(R) File 148: Gale Group Trade & Industry DB (c) 2005 The Gale Group. All rts. reserv.

12404266 SUPPLIER NUMBER: 63648834 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Pings&Packets - Searching the industry for technical connections and
returning analysis in byte-sized packges. (News Briefs)

MacKenna, John

eWeek, 87

July 24, 2000

LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 755 LINE COUNT: 00063

... rates of between 150K bps and 200K bps) would result from use of the new LZJH, or Lempel - Ziv - Jeff - Heath, compression algorithm, which generates a 25 percent greater compression ratio than the current standard. Faster...

2/3,K/7 (Item 1 from file: 275)

DIALOG(R) File 275: Gale Group Computer DB(TM)

(c) 2005 The Gale Group. All rts. reserv.

02418393 SUPPLIER NUMBER: 63648834 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Pings&Packets - Searching the industry for technical connections and
returning analysis in byte-sized packges. (News Briefs)

MacKenna, John

eWeek, 87

July 24, 2000

LANGUAGE: English RECORD TYPE: Fulltext WORD COUNT: 755 LINE COUNT: 00063

... rates of between 150K bps and 200K bps) would result from use of the new LZJH, or Lempel - Ziv - Jeff - Heath, compression algorithm, which generates a 25 percent greater compression ratio than the current standard. Faster...

#### 2/3,K/8 (Item 1 from file: 636)

DIALOG(R) File 636: Gale Group Newsletter DB(TM) (c) 2005 The Gale Group. All rts. reserv.

04765642 Supplier Number: 64769676 (USE FORMAT 7 FOR FULLTEXT) ITU AGREES TO THREE NEW STANDARDS FOR VOICEBAND MODEMS.

Online Newsletter, pITEM0024300A

Sept, 2000

Language: English Record Type: Fulltext

Document Type: Newsletter; Trade

Word Count: 409

... facilitating modem and connection fault-finding. The new data compression Recommendation is based on the LZJH compression algorithm developed by U.S.-based Hughes Network Systems and gives an improvement of

#### 2/3,K/9 (Item 2 from file: 636)

DIALOG(R) File 636: Gale Group Newsletter DB(TM) (c) 2005 The Gale Group. All rts. reserv.

04711062 Supplier Number: 63136329 (USE FORMAT 7 FOR FULLTEXT) Voiceband modem standards take another significant step forward.

M2 Presswire, pNA

July 4, 2000

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 593

... facilitating modem and connection fault-finding..

The new data compression Recommendation is based on the **LZJH** compression algorithm developed by US-based Hughes Network Systems and gives an improvement in compression...

(c) 2005 WIPO/Univentio

Set	Items	Description		
S1	4137	HUFFMAN		
S2	4	LZJH OR LEMPEL()ZIV()JEFF()HEATH		
S3	180	AU=(HEATH, R? OR HEATH R? OR HEATH J? OR HEATH J?)		
S4	0	S1 AND S2		
S5	0	S2 AND S3		
<b>S</b> 6	0	S1 AND S3		

```
2/3, K/1
            (Item 1 from file: 348)
DIALOG(R) File 348: EUROPEAN PATENTS
(c) 2005 European Patent Office. All rts. reserv.
01694337
Segmented layered image system
Geschichtetes Bildsegmentierungssystem
Systeme de segmentation d'images en couches
PATENT ASSIGNEE:
  MICROSOFT CORPORATION, (749866), One Microsoft Way, Redmond, WA 98052,
    (US), (Applicant designated States: all)
INVENTOR:
  Simard, Patrice Y, 13126 NE 31st Place, Bellevue, WA 98005, (US)
  Renshaw, Erin L, 13327 NE 135th street, Kirkland, WA 98034, (US)
  Rinker, James Russel, 13615 NE136th Place, Kirkland, WA 98034, (US)
 Malvar, Henrique S, 2302 233rd Avenue, Sammamish, WA 98074, (US)
LEGAL REPRESENTATIVE:
  Grunecker, Kinkeldey,
                        Stockmair & Schwanhausser Anwaltssozietat (100721)
    , Maximilianstrasse 58, 80538 Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 1388815 A2 040211 (Basic)
APPLICATION (CC, No, Date): EP 2003005430 030313;
PRIORITY (CC, No, Date): US 133558 020425; US 133842 020425; US 133939
    020425; US 180771 020626; US 180649 020626; US 180169 020626
DESIGNATED STATES: AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES; FI; FR; GB; GR;
  HU; IE; IT; LI; LU; MC; NL; PT; RO; SE; SI; SK; TR
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO
INTERNATIONAL PATENT CLASS: G06T-005/00
ABSTRACT WORD COUNT: 157
NOTE:
  Figure number on first page: 1
LANGUAGE (Publication, Procedural, Application): English; English; English
FULLTEXT AVAILABILITY:
                                     Word Count
Available Text Language
                           Update
      CLAIMS A (English) 200407
                                      2213
                (English) 200407
                                     18581
      SPEC A
Total word count - document A
                                     20794
Total word count - document B
Total word count - documents A + B
                                     20794
...SPECIFICATION 42bis, and 6:1 for newer version V.44 2000, which is based
  on the Lempel - Ziv - Jeff - Heath ( LZJH ) compression algorithm. It
  is to be appreciated that other suitable compression methods or schemes
  can...42bis, and 6:1 for newer version V.44 2000, which is based on the
  Lempel - Ziv - Jeff - Heath ( LZJH ) compression algorithm. Other
  compression methods or schemes can be employed to encode the mask and...
 2/3,K/2
             (Item 2 from file: 348)
DIALOG(R) File 348: EUROPEAN PATENTS
(c) 2005 European Patent Office. All rts. reserv.
01694336
Clustering of a document image
Gruppieren eines Dokumentbildes
Regroupement d'une image de document
```

MICROSOFT CORPORATION, (749866), One Microsoft Way, Redmond, WA 98052,

(US), (Applicant designated States: all)

PATENT ASSIGNEE:

```
INVENTOR:
```

Simard, Patrice Y., 13126 NE 31st Place, Bellevue, Washington 98005, (US) Malvar, Henrique S., 2302 233rd Avenue NE, Sammamish, Washington 98074, (US)

Renshaw, Erin L., 13327 NE 135th Street, Kirkland, Washington 98034, (US) LEGAL REPRESENTATIVE:

Grunecker, Kinkeldey, Stockmair & Schwanhausser Anwaltssozietat (100721), Maximilianstrasse 58, 80538 Munchen, (DE)

PATENT (CC, No, Kind, Date): EP 1388814 A2 040211 (Basic)

APPLICATION (CC, No, Date): EP 2003005429 030313;

PRIORITY (CC, No, Date): US 133558 020425

DESIGNATED STATES: AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES; FI; FR; GB; GR; HU; IE; IT; LI; LU; MC; NL; PT; RO; SE; SI; SK; TR

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO

INTERNATIONAL PATENT CLASS: G06T-005/00

ABSTRACT WORD COUNT: 151

NOTE:

Figure number on first page: 1

LANGUAGE (Publication, Procedural, Application): English; English; FULLTEXT AVAILABILITY:

Available Text Language Update Word Count

CLAIMS A (English) 200407 1068

SPEC A (English) 200407 12456

Total word count - document A 13524

Total word count - document B 0

Total word count - documents A + B 13524

...SPECIFICATION 42bis, and 6:1 for newer version V.44 2000, which is based on the Lempel - Ziv - Jeff - Heath (LZJH) compression algorithm.

The foreground encoder 1008 receives the foreground image and encodes the foreground image...

#### 2/3,K/3 (Item 3 from file: 348)

DIALOG(R) File 348: EUROPEAN PATENTS

(c) 2005 European Patent Office. All rts. reserv.

#### 01674976

Protocol message compression in a wireless communications system
Kompression von Protokollnachrichten in einem Mobilfunksystem
Compression d'un message de protocole dans un systeme de communication sans
fil

PATENT ASSIGNEE:

LUCENT TECHNOLOGIES INC., (2143720), 600 Mountain Avenue, Murray Hill, New Jersey 07974-0636, (US), (Applicant designated States: all) INVENTOR:

Mooi Choo Chuah, 1 Skylark Court, Marlboro, New Jersey 07746, (US) Tingfang Ji, 163 Walnut Court, Highland Park, New Jersey 08904, (US) Subhasis Laha, 1285 Dunbarton Drive, Aurora, Illinois 60504, (US) LEGAL REPRESENTATIVE:

Watts, Christopher Malcolm Kelway, Dr. et al (37391), Lucent Technologies (UK) Ltd, 5 Mornington Road, Woodford Green Essex, IG8 0TU, (GB)

PATENT (CC, No, Kind, Date): EP 1376878 A1 040102 (Basic)

APPLICATION (CC, No, Date): EP 2003253193 030522;

PRIORITY (CC, No, Date): US 172504 020617

DESIGNATED STATES: DE; FR; GB

EXTENDED DESIGNATED STATES: AL; LT; LV; MK

INTERNATIONAL PATENT CLASS: H03M-007/30; H04L-029/06

ABSTRACT WORD COUNT: 190

NOTE:

Figure number on first page: 5

LANGUAGE (Publication, Procedural, Application): English; English; English FULLTEXT AVAILABILITY:

Available Text Language Update Word Count

CLAIMS A (English) 200401 359
SPEC A (English) 200401 4703
Total word count - document A 5062
Total word count - document B 0
Total word count - documents A + B 5062

... SPECIFICATION sent and received messages can be used for the compression process.

A second solution uses LZJH ( Lempel - Ziv - Jeff - Heath ) as the compression algorithm. This second solution uses preloaded dictionary and a multi-packet mode, where the dictionary is updated using previous messages, and then using the LZJH compression algorithm. This second solution can reduce the first message by a ratio of 2...

2/3,K/4 (Item 1 from file: 349)

DIALOG(R) File 349: PCT FULLTEXT

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01244459 \*\*Image available\*\*

SECURE AND PERSONALISED DISTRIBUTION OF AUDIOVISUAL FLOWS BY MEANS OF A HYBRID UNICAST/MULTICAST SYSTEM

DIFFUSION SECURISEE ET PERSONNALISEE DE FLUX AUDIOVISUELS PAR UN SYSTEME HYBRIDE UNICAST/MULTICAST

Patent Applicant/Assignee:

MEDIALIVE, 111, avenue Victor Hugo, F-75116 Paris, FR, FR (Residence), FR (Nationality), (For all designated states except: US)

Patent Applicant/Inventor:

LECOMTE Daniel, 157, rue de la Pompe, F-75116 Paris, FR, FR (Residence), FR (Nationality), (Designated only for: US)

HOSNY Reda, 36, rue de Picpus, Immeuble Les Chenes, F-75012 Paris, FR, FR (Residence), EG (Nationality), (Designated only for: US)

LAMTOUNI Mohammed, 310, avenue du General De Gaulle, F-92140 Clamart, FR, FR (Residence), MA (Nationality), (Designated only for: US)
Legal Representative:

BREESE Pierre (agent), BREESE-MAJEROWICZ, 3, avenue de l'Opera, F-75001 Paris, FR,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200553299 A2 20050609 (WO 0553299)

Application: WO 2004FR50613 20041124 (PCT/WO FR04050613)

Priority Application: FR 200350895 20031124

Designated States:

(All protection types applied unless otherwise stated - for applications 2004+)

AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW (EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LU MC NL PL PT RO SE SI SK TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW

```
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: French
Filing Language: French
Fulltext Word Count: 5331

Fulltext Availability:
   Detailed Description

Detailed Description

... type LZ
   (Lempel-Ziv), par exemple LZW (une variante de LZ par Terry
   Welch's),, LZJH ( Lempel - Ziv - Jeff - Heath ou v.44 par ITU-T),
   Des renouvellements periodiques des cles de Session
   sont effectues...
?
```

```
? show files; ds; save temp; logoff hold
       2:INSPEC 1898-2005/Sep W4
File
         (c) 2005 Institution of Electrical Engineers
File
       6:NTIS 1964-2005/Sep W4
         (c) 2005 NTIS, Intl Cpyrght All Rights Res
File
       8:Ei Compendex(R) 1970-2005/Sep W4
         (c) 2005 Elsevier Eng. Info. Inc.
      34:SciSearch(R) Cited Ref Sci 1990-2005/Oct W1
File
         (c) 2005 Inst for Sci Info
File
      35:Dissertation Abs Online 1861-2005/Sep
         (c) 2005 ProQuest Info&Learning
      65:Inside Conferences 1993-2005/Oct W1
File
         (c) 2005 BLDSC all rts. reserv.
      92:IHS Intl.Stds.& Specs. 1999/Nov
File
         (c) 1999 Information Handling Services
     94:JICST-EPlus 1985-2005/Aug W1
File
         (c) 2005 Japan Science and Tech Corp(JST)
     95:TEME-Technology & Management 1989-2005/Aug W4
File
         (c) 2005 FIZ TECHNIK
     99:Wilson Appl. Sci & Tech Abs 1983-2005/Aug
File
         (c) 2005 The HW Wilson Co.
File 144: Pascal 1973-2005/Sep W4
         (c) 2005 INIST/CNRS
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 1998 Inst for Sci Info
File 583: Gale Group Globalbase (TM) 1986-2002/Dec 13
         (c) 2002 The Gale Group
File 603:Newspaper Abstracts 1984-1988
         (c) 2001 ProQuest Info&Learning
File 483: Newspaper Abs Daily 1986-2005/Oct 03
         (c) 2005 ProQuest Info&Learning
File 248:PIRA 1975-2005/Sep W3
         (c) 2005 Pira International
Set
        Items
                Description
S1
         6147
                HUFFMAN
S2
                LZJH OR LEMPEL()ZIV()JEFF()HEATH
S3
         3466
                AU=(HEATH, R? OR HEATH R? OR HEATH J?) OR HEATH J?)
```

S1 AND S2

S1 AND S3

S5 NOT S2

0

2

S4

**S**5

**S**6

DIALOG(R)File 2:INSPEC (c) 2005 Institution of Electrical Engineers. All rts. reserv. INSPEC Abstract Number: B2005-08-6135C-165 Title: A joint source-channel distortion model for JPEG compressed images Author(s): Sabir, M.F.; Sheikh, H.R.; Heath, R.W.; Bovik, A.C. Author Affiliation: Dept. of Electr. & Comput. Eng.,, Texas Univ., Austin; TX, USA Conference Title: 2004 International Conference on Image Processing (ICIP) (IEEE Cat. No.04CH37580) Part Vol. 5 p.3249-52 Vol. 5 Publisher: IEEE, Piscataway, NJ, USA Publication Date: 2004 Country of Publication: USA 5 vol. (xlii+3550) Material Identity Number: XX-2005-00398 ISBN: 0 7803 8554 3 U.S. Copyright Clearance Center Code: 0-7803-8554-3/04/S20.00 Conference Title: 2004 International Conference on Image Processing Conference Date: 24-27 Oct. 2004 Conference Location: Singapore Language: English Subfile: B Copyright 2005, IEE Author(s): Sabir, M.F.; Sheikh, H.R.; Heath, R.W.; Bovik, A.C. ... Abstract: compressed images due to both quantization and channel bit errors. Important compression techniques such as Huffman coding, DPCM coding, and run-length coding are included in the model. Examples show that ...Descriptors: Huffman codes ... Identifiers: Huffman coding (Item 1 from file: 8) 6/3,K/2 DIALOG(R) File 8:Ei Compendex(R) (c) 2005 Elsevier Eng. Info. Inc. All rts. reserv. 07467302 E.I. No: EIP05269177689 Title: A joint source-channel distortion model for JPEG compressed images Author: Sabir, M. Farooq; Sheikh, Hamid R.; Heath, Robert W.; Bovik, Alan C. Corporate Source: Department of Electrical and Computer Engineering University of Texas at Austin, Austin, TX 78712-1084, United States Conference Title: 2004 International Conference on Image Processing, ICIP 2004 Conference Location: Singapore Conference Date: 20041018-20041021 E.I. Conference No.: 65024 Source: Proceedings - International Conference on Image Processing, ICIP 2004 International Conference on Image Processing, ICIP 2004 v 2 2004. (IEEE cat n 04CH37580) Publication Year: 2004 ISSN: 1522-4880 Language: English Author: Sabir, M. Farooq; Sheikh, Hamid R.; Heath, Robert W.; Bovik,

...Abstract: compressed images due to both quantization and channel bit errors. Important compression techniques such as **Huffman** coding, DPCM coding, and run-length coding are included in the model. Examples show

(Item 1 from file: 2)

6/3,K/1

2/3,K/1 (Item 1 from file: 2)

DIALOG(R) File 2:INSPEC

(c) 2005 Institution of Electrical Engineers. All rts. reserv.

07925983 INSPEC Abstract Number: B2001-06-6140-122

Title: New algorithm for data compression

Author(s): Heath, J.

Journal: Elektronik vol.50, no.5 p.66-73

Publisher: WEKA-Fachzeitschriften,

Publication Date: 6 March 2001 Country of Publication: Germany

CODEN: EKRKAR ISSN: 0013-5658

SICI: 0013-5658(20010306)50:5L.66:ADC;1-M Material Identity Number: E071-2001-006

Language: German

Subfile: B

Copyright 2001, IEE

Abstract: The author describes the LZjH ( Lempel - Ziv - jeff - Heath ) data compression algorithm per ITU recommendation V.44. In this system, a tree structure is...

...a compressed data string is shown. This is stated to be scalable. Use of the LZjH algorithm in packet networks is explained.

... Identifiers: LZjH algorithm

#### 2/3,K/2 (Item 1 from file: 95)

DIALOG(R)File 95:TEME-Technology & Management (c) 2005 FIZ TECHNIK. All rts. reserv.

01491399 20010303216

# Neuer Algorithmus fuer die Datenkompression. Die Grundlage der ITU-T-Empfehlung V.44

Heath, J

Hughes Network Syst., San Diego, USA

Elektronik, Poing, v50, n5, pp66-69,72-73, 2001 Document type: journal article Language: German

Record type: Abstract

ISSN: 0013-5658

#### ABSTRACT:

...als Symbole codiert werden, verwendet der LZ78-Algorithmus eine Tabelle mit Baumstruktur. Der neue Algorithmus LZjH (Lempel - Ziv - jeff - Heath) ist quasi eine Kombination aus beiden Algorithmen, wobei die History kein bewegliches Fenster darstellt, sondern...

...wird. Obwohl die Richtlinie V.44 in erster Linie fuer Modems ausgerichtet ist, kann der LZjH -Algorithmus, urspruenglich fuer ein Paket-Netzwerk entwickelt, praktisch fuer jede Art der Datenkommunikation eingesetzt werden...

? show files; ds; save temp; logoff hold File 348:EUROPEAN PATENTS 1978-2005/Sep W04 (c) 2005 European Patent Office File 349:PCT FULLTEXT 1979-2005/UB=20050929,UT=20050922

(c) 2005 WIPO/Univentio

Items Set

Description LZ()77 AND HUFFMAN 2 S1

```
1/3,K/1
            (Item 1 from file: 348)
DIALOG(R) File 348: EUROPEAN PATENTS
(c) 2005 European Patent Office. All rts. reserv.
ENCODING APPARATUS AND METHOD; DECODING APPARATUS AND METHOD AND RECORDING
    MEDIUM RECORDING APPARATUS AND METHOD
CODIERUNGSVORRICHTUNG UND VERFAHREN, DECODIERUNGSVORRICHTUNG UND VERFAHREN
    UND AUFZEICHNUNGSMEDIUM, AUFZEICHNUNGSVORRICHTUNG UND VERFAHREN
APPAREIL ET PROCEDE DE CODAGE, APPAREIL ET PROCEDE DE DECODAGE ET APPAREIL
    ET PROCEDE D'ENREGISTREMENT DE SUPPORT D'ENREGISTREMENT
PATENT ASSIGNEE:
  Sony Corporation, (214028), 7-35, Kitashinagawa 6-chome, Shinagawa-ku,
    Tokyo 141-0001, (JP), (Applicant designated States: all)
  INOKUCHI, Tatsuya, SONY CORPORATION, 7-35, Kitashinagawa 6-chome,
    Shinagawa-ku, Tokyo 141-0001, (JP)
LEGAL REPRESENTATIVE:
  Nicholls, Michael John (61941), J.A. KEMP & CO. 14, South Square Gray's
    Inn, London WC1R 5JJ, (GB)
PATENT (CC, No, Kind, Date): EP 1437713 A1 040714 (Basic)
                              WO 2003032296 030417
APPLICATION (CC, No, Date):
                              EP 2002777800 020930; WO 2002JP10146 020930
PRIORITY (CC, No, Date): JP 2001307548 011003
DESIGNATED STATES: AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES; FI; FR; GB; GR;
  IE; IT; LI; LU; MC; NL; PT; SE; TR
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: G10L-019/00; H04S-001/00; H04H-005/00
ABSTRACT WORD COUNT: 88
NOTE:
  Figure number on first page: 001
LANGUAGE (Publication, Procedural, Application): English; English; Japanese
FULLTEXT AVAILABILITY:
Available Text Language
                           Update
                                     Word Count
      CLAIMS A (English) 200429
                                      3047
               (English) 200429
                                      9261
      SPEC A
Total word count - document A
                                     12308
Total word count - document B
Total word count - documents A + B
                                     12308
...SPECIFICATION such as music data should be effectively compressed with a
```

- ...SPECIFICATION such as music data should be effectively compressed with a reversible code. As irreversible codes, **Huffman** code, arithmetic code, moving **Huffman** code, universal codes (LZ (Lemple Ziv) 77, LZ SS, LZ 78, and LZ W), and...
- ...become random numbers and encoded with a reversible code.

  Reversible encoding is performed with a **Huffman** code. A pre-process is performed with an LZ code.

  With a reversible code, data...
- ...correlation" and "time base correlation" can be accomplished by a simple arithmetic device. In addition, Huffman code encoding can be easily performed. Thus, both an encoding process and an decoding process...
- ...the present invention; Fig. 4 is a schematic diagram for explaining an encoding portion using LZ 77; Fig. 5 is a schematic diagram for explaining the encoding portion of the reversible code...right channels

In the reversibly encoding, a  ${\tt Huffman}\$  code is used. As a pre-process, an LZ code is used.

With a reversible...

...and "time base correlation" can be structured with a simple arithmetic device. In addition, since **Huffman** code encoding can be easilyperformed, the encoding process and the decoding process can be performed...

#### 1/3,K/2 (Item 1 from file: 349)

DIALOG(R) File 349: PCT FULLTEXT

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01258409 \*\*Image available\*\*

#### RAPIDLY QUERYABLE DATA COMPRESSION FORMAT FOR XML FILES

FORMAT DE COMPRESSION DE DONNEES DE CONSULTATION RAPIDE POUR FICHIERS XML Patent Applicant/Assignee:

KONINKLIJKE PHILIPS ELECTRONICS N V, Groenewoudseweg 1, NL-5621 BA Eindhoven, NL, NL (Residence), NL (Nationality), (For all designated states except: US)

Patent Applicant/Inventor:

MOREL Anthoy, Philips Electronics China, 21/F Kerry Office Building 218
Tian Mu, Xi Road, Shanghai 200070, CN, CN (Residence), FR (Nationality)
, (Designated only for: US)

Legal Representative:

KONINKLIJKE PHILIPS ELECTRONICS N V (commercial rep.), c/o HAQUE, Azir, Philips Electronics China, 21/F Kerry, Office Building, 218 Tian Mu Xi Lu Road, Shanghai 200070, CN,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200567153 A1 20050721 (WO 0567153)

Application: WO 2004IB52842 20041217 (PCT/WO IB04052842)

Priority Application: CN 200310124520 20031230

Designated States:

(All protection types applied unless otherwise stated - for applications 2004+)

AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW (EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LT LU MC NL PL PT RO SE SI SK TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English Fulltext Word Count: 6893

Fulltext Availability:

Detailed Description

#### English Abstract

...useless characters such as tabulators and white spaces are removed, indicating data marks are inserted, LZ - 77 compression is applied, and finally the data are <code>Huffman</code> -encoded and packed in data blocks. The indicating marks are used to search in the...

French Abstract

...tabulateurs et les blancs sont enleves ; des marques de donnees indicatrices sont inserees ; la compression LZ - 77 est appliquee et finalement les donnees sont codees Huffman et empaquetees dans des blocs de donnees. Les marques d'indication sont utilisees pour rechercher

#### Detailed Description

... g. the best known zip (.zip files) and gzip (.gz files). It is based on Huffman , LZ77 or both.

In the prior art, a compression device compresses the XML data and...

...structural diagram of a compressor in the prior art.

Compressor 100 comprises LZ77 encoder 102, **Huffman** encoder 104 and block packer 106. Compressor 100 compresses the XML data on the basis...

...the space from the beginning of the sequence in the bytes to the current byte.

Huffman encoder 104 performs Huffman -encoding to the codewords and literals, outputs a sequence of codes of different lengths and generates a Huffman list.

Block packer 106 obtains a **Huffman** list from **Huffman** encoder 104, packing the data into blocks, each of which could use different **Huffman** lists

or even does not need LZ77-encoding and Huffman -encoding at all. Here the packing has three possibilities: bypass compressing, using default Huffman list and using conventional Huffman list. The three possibilities are based on actual compression ratio and average amount of information...

...the compressed XML data, obtaining the XML data. Decompressor 200 comprises block header decoder 202, **Huffman** decoder 204 and LZ77 docoder 206.

Block header decoder 202 decodes the compressed XIVIL data, obtaining a **Huffman** list and codes and/or literals of different lengths.

Huffman decoder 204 decodes the compressed XML data again, obtaining codewords and literals, and in the...

#### ..an

embodiment of the present invention. The compressor 100 comprises a LZ77 encoder 102, a **Huffman** encoder 104, a block packer 106, and an indicating data block inserting device 302. LZ77...

...data, and it may

also acts as a receiving device for receiving the XIVIL data. Huffman encoder

104 performs **Huffman** -encoding to the LZ77-encoded XML data, and provides **Huffman** list at the same time. LZ77 encoder 102 and **Huffman** encoder 104 together could form an encoding device for encoding the XIVIL data.

```
? show files; ds; save temp; logoff hold
       2:INSPEC 1898-2005/Sep W4
File
         (c) 2005 Institution of Electrical Engineers
       6:NTIS 1964-2005/Sep W4
File
         (c) 2005 NTIS, Intl Cpyrght All Rights Res
       8:Ei Compendex(R) 1970-2005/Sep W4
File
         (c) 2005 Elsevier Eng. Info. Inc.
      34:SciSearch(R) Cited Ref Sci 1990-2005/Oct W1
         (c) 2005 Inst for Sci Info
File
      35:Dissertation Abs Online 1861-2005/Sep
         (c) 2005 ProQuest Info&Learning
      65:Inside Conferences 1993-2005/Oct W1
File
         (c) 2005 BLDSC all rts. reserv.
      92:IHS Intl.Stds.& Specs. 1999/Nov
File
         (c) 1999 Information Handling Services
File 94:JICST-EPlus 1985-2005/Aug W1
         (c) 2005 Japan Science and Tech Corp(JST)
     95:TEME-Technology & Management 1989-2005/Aug W4
File
         (c) 2005 FIZ TECHNIK
      99:Wilson Appl. Sci & Tech Abs 1983-2005/Aug
File
         (c) 2005 The HW Wilson Co.
File 144: Pascal 1973-2005/Sep W4
         (c) 2005 INIST/CNRS
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 1998 Inst for Sci Info
File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
         (c) 2002 The Gale Group
File 603:Newspaper Abstracts 1984-1988
         (c) 2001 ProQuest Info&Learning
File 483: Newspaper Abs Daily 1986-2005/Oct 03
         (c) 2005 ProQuest Info&Learning
File 248:PIRA 1975-2005/Sep W3
         (c) 2005 Pira International
```

Set	Items	Description		
S1	4	LZ()77 AND HUFFMAN		
52	1	RD (unique items).		

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(Item 1 from file: 2)
DIALOG(R) File
               2:INSPEC
(c) 2005 Institution of Electrical Engineers. All rts. reserv.
          INSPEC Abstract Number: B2004-08-6120B-059, C2004-08-7240-013
 Title: On the hardness of finding optimal multiple preset dictionaries
 Author(s): Mitzenmacher, M.
  Author Affiliation: Div. of Eng. & Appl. Sci., Harvard Univ., Cambridge,
MA, USA
  Journal: IEEE Transactions on Information Theory
                                                         vol.50, no.7
1536-9
  Publisher: IEEE,
  Publication Date: July 2004 Country of Publication: USA
  CODEN: IETTAW ISSN: 0018-9448
  SICI: 0018-9448 (200407) 50:7L.1536:HFOM;1-T
 Material Identity Number: I044-2004-008
  U.S. Copyright Clearance Center Code: 0018-9448/04/$20.00
  Language: English
  Subfile: B C
  Copyright 2004, IEE
  ... Abstract: simple compression problem is NP-hard: given a collection of
documents, find the pair of Huffman dictionaries that minimizes the total
compressed size of the collection, where the best dictionary from...
... each document. We also show the NP-hardness of finding optimal multiple
preset dictionaries for LZ ' 77 -based compression schemes. Our reductions
make use of the catalog segmentation problem, a natural partitioning...
  ...Descriptors: Huffman codes
  ...Identifiers: LZ ' 77 -based compression schemes...
... Huffman coding
```